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Response to the Proposed Settlement of the Microsoft Case:

I am writing because I am unhappy about the proposed settlement of the Microsoft antitrust trial.

I do not wish to try to enumerate the flaws of the settlement. I think other people have done a good job of that; for instance, I approved of Daniel Kegeles's petition and signed it. In addition, I feel uncomfortable saying anything that might imply that I know better than the judge how to decide issues of law or apply them to a remedy. I am a software engineer; I don't know anything about law. The only special understanding I have is of technology.

However, the problem of the "understanding of technology" is an issue in this case. There has been much griping in technology circles that this settlement shows how thoroughly the legal system doesn't "get" technological issues. But most of this griping is just that — griping. You legal people must wonder about us: if there really is something you don't "get," why can't we explain to you what it is?

For instance, recently an engineer complained to Lawrence Lessig:

"Members of the judiciary are largely unqualified to comment or judge upon issues of a technical nature, simply because their careers do not incorporate a great deal of technical knowledge, and also because they have not sought it ... My concern is that...we won't have a lot of judges with a high awareness of the intricacies involved for several years. However, the judges presently sitting are essentially creating a body of law to govern what they do not understand."

In reply, Lessig shot back a challenge to us:

"There was a time when I thought that lawyers wouldn't do too much damage... All that has changed now ... This is, in part, because courts don't understand the technology. But I don't think it's because courts don't know how to code. I think the problem is that courts don't see the connection between certain kinds of technology and legal values. And this is because we've not done a good job in demonstrating the values built into the original architecture of cyberspace: That the Internet embraced a set of values of freedom...that those values produced a world of innovation that otherwise would not have existed. If courts could be made to see this, then we could connect this struggle to ideals they understand.

Sometimes when I read Slashdot debates, I wonder whether you guys get this connection either... And this leads me to the greatest pessimism: If you guys don't get the importance of neutral and open platforms to innovation and creativity; if you get bogged down in 20th century debates about libertarianism and property rights; if you can't see how the .commons was critical to the .com revolution, then what do [you] expect from judges?

You guys ... built an architecture of value. Until you can begin to talk about those values, and translate them for others, courts and policy makers generally will never get it.

Lessig is basically telling us we are being a bunch of inarticulate crybabies. He is right. If we want to claim the right to complain that courts do not understand us, we need to provide a "translation of our values" in terms that a layman can understand.

My goal in this letter is to attempt to provide such a translation, and then use it to make an analysis of the nature of the public interest in the settlement of the Microsoft trial.

I am deeply involved with the society that created the values to which Lessig refers. I have spent a large part of the last eight years at the MIT Lab for Computer Science - a place whose extraordinary qualities were better characterized by another student from my floor:

[I]t is tough for most people to imagine a building where a young nerd can walk out of his office on the 4th floor, argue with the founder of the free software movement (Richard Stallman), annoy the authors of the best computer science book ever written (Abelson and Sussman), walk up one floor to run a few ideas past Dave Clark, Chief Protocol Architect for the Internet from 1981-1989, and walk down two floors to talk to Tim Berners-Lee, developer of the World Wide Web.

I know all these people; many of them feel like family to me. I know what they care about, what they hope for, what they dream about, what they fight for, and what they fear. I never imagined that, as an MIT engineer, so much of what I would struggle with would not be the "intricacies involved" in the practice of engineering, but instead the problems of defining and communicating the value that technology can and can't provide to society. The engineers here are in a constant battle to prevent society from destroying the value they try to build for it: this struggle takes up so much of their energy that it is hard to think of what they do as just engineering anymore. I do not like this: I want to simply be an engineer. I wish that you, the court, could take from us the job of defining and communicating values, so we could go back to being ordinary engineers. It is much more natural for you to take on this role, than it is for us to have it. But in order for you to do that, first we would have to explain these values to you.

I am unhappy with the proposed settlement because it shows how deeply the courts do not understand the value that engineers here are trying to build. I could pick on the specifics of the settlement terms *ad infinitum*, but I feel it would be a pointless exercise, because only a basic failure of understanding of the nature of the public interest could make such a flawed settlement seem acceptable in the first place. But if I claim that there is a basic failure of understanding, that raises a question: "What exactly is it that I think government officials don't understand?" It is rather shocking that we have failed to effectively answer this question. We have told you many things: long stories of power struggles in the browser market, mind-bendingly technical analysis of the proper design of network protocols, plenty of satirical accounts of Microsoft's shady shenanigans, and many other similar things. But we never have given a simple answer to the simple question "What is the nature of the public interest in all these matters?" It is the goal of this letter to try to fill this gap. I will make my argument in a context so ordinary that it may well seem childish, but please bear with me: in my silly example, I think I can capture the essential issues at stake and then tie them back to our complex and confusing real situation.

So here is my simple picture – instead of talking vaguely about the "old economy" and the "new economy," and about the mysterious difference between them, I want instead to talk about two ordinary household tasks: mowing the lawn and cleaning the basement. In my picture "mowing the lawn" will represent the old economy, and "cleaning the basement" will represent the new. (I warned you this would sound silly; but please hang on – it is not as dumb as it sounds). Why did I choose these particular examples? Because I think the fundamental change that we are calling "the appearance of a new economy" is a shift from an economy that strives to increase productivity by automating manufacturing, to one that strives to increase productivity by automating organizational tasks. The new frontier is the reorganization of supply chains and business processes to take advantage of "information technology"

- the ability of machines to do the organizational tasks that used to be handled by armies of clerks and middle managers. But this shift is so huge, complex, and hard to picture, that I want to pull it down to earth and discuss its central principles in the context of the kind of organizational task we all are familiar with: the problem of how to bring some order to a messy basement. By way of contrast, I want to compare this task to another one we all know and love: the problem of how to tame an unruly lawn. (You might ask, how is mowing the lawn manufacturing? Well, it is manufacturing shorter grass.)

Now that I have identified my representative "industries", I want to talk about how we can think about the nature of the "public interest" in the context of these tasks. As I continue this description, I hope you will see the advantages of translating our discussion to such a down-to-earth context. In this setting, it is easy to use one's ordinary intuition to understand the public interest in a conflict. Maybe it is hard to interpret the public's interest in the "future of an online architecture for e-business," but how hard is it to think about what you want for the future state of your basement? I want you to see what our conflict with Microsoft would look like if it occurred in this ordinary context.

So, to start my story, let me describe a conflict which illustrates a threat to the public interest in the context of the "old economy." Suppose I need my lawn mowed, and the kid who I usually hire to push my clunky old gas mower around the yard, instead shows up to work with a shiny, spiffy new lawnmower of his very own. He has broken his piggy bank to buy it: he is very proud of himself and shows it off to everyone on the block. His beautiful new lawnmower mows the lawn twice as fast as the old one did. As a result, he can mow twice as many lawns in the same time. Pretty soon he is raking in the cash. He is making so much money, he can afford to lower his lawn-mowing rates, so he begins to steal business from the other lawn-mowing kids on the block. The other kids get upset. "He's cheating!" they cry. They gang up on him, beat him up, and smash his new lawnmower. The original kid, recovering in the hospital, appeals to the adults on the block for justice. "The other kids were jealous of my success!" he cries. "They had no right to hurt me or my lawnmower. You should protect me so that nothing like this ever can happen again!"

Should the adults listen to him? Absolutely. Not only was what happened to the kid unfair, it also damaged the public interest. When a kid can mow lawns twice as fast for less money, everyone on the block benefits. He put considerable investment and risk into obtaining his lawnmower, and it provided a benefit for everyone. Yes, he also made a lot of money from his new lawnmower, and maybe he was a little obnoxious about showing it off, but his good fortune was good fortune for everyone. Therefore, his investment deserved to be protected from the destructive jealousy of the other kids. The rich kid should be protected, and the jealous kids should be punished.

Now, to continue, let me introduce another story of a situation that causes harm to the public interest, this time in the context of the "new economy." Suppose I decide to hire a kid to help me clean my basement. This kid works very hard, sorting all the stuff in the basement, building appropriate-sized boxes for various categories of stuff, and carefully labelling all the boxes so it is easy to find things later. His hard work is useful to me: it helps me find things more easily. But there is trouble in my little paradise. One day, my little helper cannot come, so I hire another kid to help out. But this kid is different. He is careless: he puts things in the wrong boxes, and mislabels the boxes. Worse, he is devious: he discovers that if he puts things in the wrong boxes deliberately, and labels the boxes in a scrawl only he can understand, then he can make extra money off me, because I will need his help to be able to find things again. Worse still, he is ambitious: he realizes that if he puts the potting soil in a place where only he can find it, then pretty soon I will be forced to ask him to take charge of organizing the gardening shed as well. Thus he can double the amount of money he can make off me, and there is nothing I can do about it.

So how do we think about the "nature of the public interest" in this situation? Well, in order to answer that question, it is important to ask first "what is the result I am trying to achieve?" If I hire someone to clean my basement, the result I want is a well-organized basement, a basement in which it is easy to find things. The kid who worked hard to sort things accurately and label the boxes clearly helped me achieve my goal. The kid who deliberately mislabeled the boxes and misplaced the potting soil did not help me achieve my goal. He hurt my interests, not merely because he over-charged me, took over my basement, and hatched devious designs on my gardening shed, but much more simply, because he failed to deliver to me the basic effect I wanted and needed. I needed a basement where I can find things easily: he didn't give it to me. By contrast, the first kid, the one who built me a good system of well-organized, well-labelled boxes, did give me the effect I needed. The first kid's actions served the public interest; the second kid's did not.

This observation is the whole secret to understanding the "architecture of value" of which Lessig spoke. What is an "architecture of value?" It is nothing fancy: one can think of it as an information architecture that would remind one of a well-organized basement. This architecture is valuable because the careful sorting and clear labels make it easier to find things. There is nothing terribly subtle or difficult about this idea. The only really deep concept here is the observation that it is useful to ask the question: "what is the fundamental goal we are trying to achieve?" We are entering into an "organization economy," and in such an economy, we want to achieve the goal of being well-organized. The central value of such an economy is no more complicated than the admonition we have all heard a thousand times from our mothers: "it is nice to put things away where they belong so it will be easier to find them again later."

But if it is all so simple, why does it seem so hard? It seems hard because it IS hard, but it is not hard because anything about the situation is complicated. It is hard for quite another reason, which I want to illustrate using a third story. This, my final story, is a classic tragedy.

Let us suppose that the first kid I hired to clean my basement returns from his vacation and ventures downstairs to view the state of his handiwork. When he sees what the second kid has done, words cannot describe what he feels at the sight of the ruin of all his hard work. He grabs the second kid by his shirt collar and drags him to me to face judgment. "He's cheating!" he cries. (He doesn't say much else: unfortunately this first kid - though a good, honest worker - is not exactly the articulate type.) The second kid replies: "He is just complaining because he is jealous of my success! He has no right to handle me this way or damage the valuable 'intellectual property' I have created. You should protect me so that nobody can ever treat me like this again!" Now when I hear these words, I remember my earlier trauma when I witnessed the kid with the new lawnmower get beaten up by a jealous gang. I remember how I pledged to the kid on his hospital bed that nothing like that would ever be allowed to happen again. This recollection plunges me into a state of fear and confusion. The first kid comes to me and begs for the right to re-label the boxes correctly: it is hard to deny such a heartfelt request. On the other hand, I made a solemn pledge to the kid in the hospital that I would never, ever allow anything like the disaster that happened to him to happen to anyone else. I am riven in two: I do not know what to do.

So I propose a compromise. I propose that certain of the boxes in the basement are to be declared "Middleware", and I will require of the kid who now owns the organization system of my basement that he reveal the meaning of the labels on those boxes. To protect his 'intellectual property,' I only require that he reveal these labels to another party when they agree to sign a non-disclosure agreement. The second kid is happy enough to agree to that, especially since he alone knows exactly where he has hidden the potting soil, and he has carefully made sure that the box where it is hidden is not declared "Middleware." In this way, his designs for the takeover of my gardening shed are unaffected. Since summer is coming, the control of the gardening shed is the only thing that really matters anyway, so he loses nothing by signing on to my "compromise".

Now, what can we say about this compromise? Should I say that it is a bad compromise because I was not careful enough to locate the hidden potting soil before I settled on my definition of "Middleware"? Should I say that it is unfair to require people to sign a non-disclosure agreement whenever they want to get a hammer from the basement? I could say all these things, and more, but they seem to skim over the surface of the problem. Much more fundamentally, this compromise represents a failure to think clearly about what we are trying to accomplish. It is in our statement

of the nature of the values which we are "compromising" that we have failed. We have failed to understand the essential values that we are pledged to protect.

To appreciate the tragedy of this failure, imagine how this situation would appear to the first kid, the one who cares more than anything about properly organizing the basement. He worked hard and honestly to do the very best job he could, but to no avail: all his hard work was ruined. It wasn't even accidentally ruined -- it was ruined on purpose. But when he tries to protest about this betrayal of his values, not only is he not listened to, he is also treated like a jealous, violent gang leader. Since he is not a sophisticated kid, he cannot figure out why any of this is happening to him. It simply feels to him like all the adults around him have gone mad.

I might ask: what exactly were the essential values I failed to understand when I devised my compromise? One might say that my compromise shows how little I understand the values associated with the "new economy." It is true that I have failed to understand how overwhelmingly important it is to have clearly labeled boxes in my basement. But this concept of "value" in the new economy is so very simple and easy to understand, that one might also maintain that I understood it perfectly clearly. When I insisted that the "Middleware" boxes should be clearly labelled, I showed that I *do* understand what constitutes value in the new economy.

Nonetheless, my judgment was confused, but it was not a lack of understanding of the new economy that caused this confusion. Instead, my judgment was clouded by the pain and confusion that the reminder of an old-economy conflict invoked in me. I ran into difficulties because I was led to apply "old economy thinking to a new economy problem." In particular -- this is the key point -- my real failure came not from a failure to understand the values of the "new economy," but from a failure to understand the values of the *old* one. When I promised to the kid in the hospital that nothing like what happened to him would ever be allowed to happen again, I did not define very clearly in my head what exactly it was I was pledging myself to protect. What exactly did I promise? Did I promise that in every circumstance where a rich and successful kid was challenged by a poorer, less successful kid, I would always side with the rich kid?

No, that is not what I promised. I made the promise to the kid in the hospital because I saw that his good fortune was good fortune for everyone, and therefore I pledged myself to protect it. But when I later found myself in a situation when a rich and successful kid demanded that I protect his good fortune, I forgot the rationale behind my original promise. If I had remembered it, I might have thought to ask myself "in this new situation, is this rich kid's good fortune good fortune for everyone?" Hopefully it is clear that this question receives a rather different answer in this situation. So, does my old promise bind me anymore? Am I required to devise a compromise between the interests of the two children in my charge? No, such a

compromise doesn't make sense. I could make things much easier on myself if I just worried about protecting my own interests. My interest is to be able to easily find things in my own basement. The first kid fought for my interests, the second kid did not. It is that simple: there is no need for the terrible pain and confusion this case evokes, or the strange and convoluted compromises that are the result.

So, to wrap up my story, I want to summarize the four conceptual errors I made which drove me to devise such a thoroughly flawed compromise.

First, I made two mistakes in my understanding of the "new economy":

1. I did not understand how much value the first kid provided for me when he carefully sorted and labeled all my stuff.
2. I did not understand how badly the second kid hurt me when he destroyed this careful labeling system. I did not understand how dangerous it is that I have become dependent on his aid to find anything in his system of artfully mislabeled boxes.

Second, I made two mistakes in my application of principles that came from the "old economy":

3. When the second kid claimed to me that I had an obligation to protect his incentive to invest, I forgot that the statement of this obligation is that we must protect the "incentive to invest in machinery to make a manufacturing job more productive." I need to protect a kid's incentive to break his piggy bank and buy a lawnmower, or I will have to put up with the fumes and noise from my old gas mower forever. But this obligation does not apply to the conflict between the kids who are cleaning my basement, because there is no machinery that will aid the task of "manufacturing" a cleaner basement. So there is no need to protect the incentive to invest in such machinery.
4. More generally, I made a mistake when I failed to notice how the second kid manipulated and abused my commitment to the values of the old economy with his carefully chosen words. Earlier I said that this kid was careless, and worse, devious, and worse still, ambitious. But worst of all, he is manipulative. He is perfectly willing to take our most central, sacred values and twist them into a empty caricature of themselves to serve his own interests. It is our mistake and our shame that we cannot see what is being done to us.

So now I have completed my story. I have explained the essential failures of understanding that caused me to make a dreadful mistake. I promised earlier that when I was done I would take the lessons I have explained and tie them back to our complex and confusing real situation. So I will describe again the four mistakes I have just



identified, this time as they appear in the real world.

I contend that this settlement reveals that public officials fail to understand four important concepts that are crucial to understanding the nature of the public interest in the conflict with Microsoft.

First, it reveals that there are two ways that public officials basically misunderstand the "new economy."

1. They do not understand the tremendous value to society provided by the creators of the open standards of the Internet, the World Wide Web, the associated free software that supports the Internet (Apache, Bind, Perl, etc) and the free operating systems Linux and BSD. They do not understand the tremendous value to society of open, well-specified APIs on every level of the information architecture we are trying to build to support the future productivity of our society.
2. They do not understand how badly society is hurt by Microsoft's manipulation of its APIs and file formats. They do not understand how much the constantly changing proprietary file formats hurt ordinary people's ability to get work done, nor do they understand the loss of potential productivity that occurs when a API is obscured or destroyed. They do not understand how Microsoft's control of the platform hurts the prospect for real competition and progress in the computer industry.

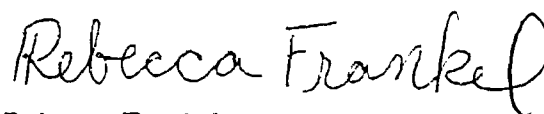
Second, more seriously, it reveals two ways that public officials are confused about how to apply the values of the "old economy" in this new situation.

3. They haven't noticed that, just as you don't need a lawnmower to clean a basement, you don't need a lawnmower to write an operating system. All the effort to preserve a delicate balance between the need for open APIs, and the need to preserve the incentive to invest, have missed the point that we are protecting the incentive to invest in a purely imaginary lawnmower. There is no machinery that will make the job of writing an operating system any easier, so there is no need to protect the incentive to invest in imaginary machinery.
4. Finally, they haven't noticed that Microsoft is lying to them. Microsoft is lying in a horrible way: they are invoking the values that honorable public officials have spent their whole lives protecting, and they are manipulating them, using them, twisting them around so they come to mean something entirely different. The government does not detect this duplicity - that is their greatest mistake. We engineers have a name for these kinds of lies: we call them FUD, which stands for "fear, uncertainty and doubt." We watch Microsoft deliberately spread fear, uncertainty and doubt in the government, the courts and the general population,

and we view with amazement and horror the enormous power that these lies have over the world.

We are lost: we do not know what to do to combat lies which have such terrible power. We are like children who live in a world where all the adults have gone mad.

Yours sincerely,

A handwritten signature in cursive script that reads "Rebecca Frankel". The signature is fluid and elegant, with a large, stylized 'R' and 'F'.

Rebecca Frankel